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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/695,007

10/28/2003

David Y. Wang

TWI-23310

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08/23/2006

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EXAMINER

ROSENBERGER, RICHARD A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/695,007	Applicant(s) WANG, DAVID Y.	
	Examiner Richard A. Rosenberger	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7,9,11-13 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,9,11-13 and 16, 19,20 is/are rejected.
- 7) ☒ Claim(s) 17,18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 7 is rejected under 35 U.S.C. 101 because the final step of merely analyzing would not appear to be sufficient to constitute a tangible result, since the outcome of the analyzing step is not being claimed in a disclosed practical application nor is it outcome being made available in such a manner that its usefulness in a disclosed practical application can be realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility".

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norton (US 6,778,273) in view of Shafer (US 4,205,902) and further in view of the acknowledged prior art of instant prior art figures 2 and 3.

Figure 1 of Norton et al shows a measuring system with both illumination and light receiving optics comprising an off-axis concave mirror (10, 13) and a off-axis

convex mirror (9m 14) in series. It would have been obvious to use other known similar mirror systems in an arrangement such as shown by Norton, such as the off-axis spherical mirror pair shown in figure 3a of Shafer, which like the system of Norton, has an off-axis concave mirror (15) and an off-axis convex mirror (17). Also like Norton, the two mirrors do not obscure each other.

Although the use of a mirror system such as shown by Shafer differs from that of Norton in that the light to and from the convex mirror is collimated, as shown in instant prior art figures 2 and 3 those in the art known that operable systems can be made with collimated light passing to and from the optics focusing light onto, and receiving light from, the surface being inspected.

5. Claims 5, 6, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle (US Re 32,912).

See figure 2, which shows, as in claim 5, a concave off-axis paraboloid mirror (74) which receives and collimates light from a measuring spot on a sample (at 72). Given the arrangement of the optics in figure 2 of the reference, it would have been at least trivially obvious to pave the sample in the plane of the line shown at 72. With that orientation, the mirror 74 will receive light substantially normal to the sample. There is a flat mirror (78) which receives and redirects light from the paraboloid mirror, the two mirrors are mutually non-obscuring. Claim 5 has the received light “reflected from the measuring surface”, but has no means to direct the light to the surface, or any other

structure to give particular definite meaning to the light being “reflected”, and thus the “reflected” language in no more than a statement of non-limiting intended use.

Similarly as in claim 6, there is a concave off-axis paraboloid mirror (70) which projects a probe beam (68) onto a sample as a substantially normal angle of incidence, and a flat mirror (49) which redirects the probe beam (68) toward the paraboloid mirror (70), the two mirrors being non-obscuring.

As in claims 13 and 16, figure 2 of Doyle shows a set of focusing optical components (70, 74) what are all reflective and are oriented so there is no central obscuration, and being positoned to illuminated and/or collect light from the sample at normal incidence. In clasm 16, as with clam 5 above, there is not structure relating to the claim language “of reflection”, so as claimed it is no more thatn a non-limiting statement of intended use.

6. Claims 11, 12, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Stumbo et al (US 6,310,687) or Wurtz et al (US 5,661,561) in view of Doyle (US Re 32,912).

Both Stumbo et al and Wurtz et al show the known use of an off-axis parabolic mirror to direct light to and collect light reflected from a surface, with both the directing and receiving being substantially normal to the surface; see mirror 122 in figures 1 and 2 of Stumbo et al and mirror 26 in figure 1 and 4 of Wurtz et al. Neither shows a plane mirror such as disclosed herein which directs light to and from the off-axis parabolic mirror, although the scanner 22 of Wurtz et al has planar mirror facets and beams

splitter 126 in figure 2 of Stumbo et al is a plane mirror of a sort. It is known that in such arrangements a plane mirror can be used to fold the light path as convenient; see the Plane mirrors 49 and 78, for example, of Doyle. Such folding mirrors are well-known in the art, and not alter the functioning of the system, although they do allow for such design benefits as more convenient layout, increased compactness, etc. Because of this type of known benefit, it would have been obvious to include such a folding mirror in the systems of Stumbo et al or Wurtz et al.

As in claims 19 and 20, the Stumbo et al and Wurtz et al references at least having an aperture stop somewhere between the flat mirror and the detector; the camera (30) of Wurtz et al would normally have an aperture stop, and figure 5B of Stumbo et al shows an aperture stop in front of the detector of a similar system.

7. Claims 17 and 18 add to their respective parent claims that there is an aperture stop "located near one of the mirrors". The art does not appear to show such an aperture stop in that location in systems such as claimed in the parent claims. These claims are objected to as being dependent from unallowed claims.

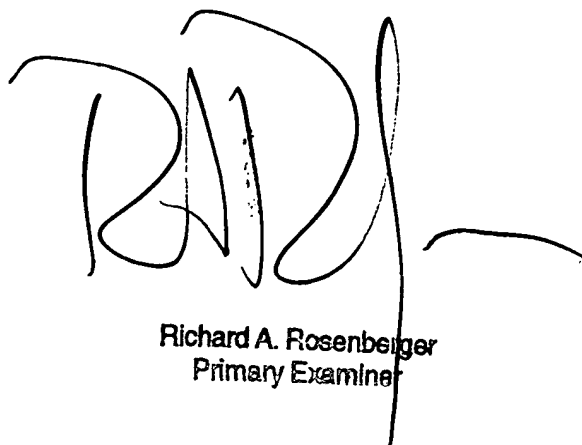
8. The remarks filed 6 June 2006 have been considered. Because of the citation and application of additional references, the remarks are considered moot.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A Rosenberger whose telephone number is (571) 272-2428. The examiner can normally be reached on Monday through Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. A. Rosenberger
17 August 2006



Richard A. Rosenberger
Primary Examiner